

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

In the Matter of

Gen Docket No. 90-314  
RM-7140, RM-7175, RM-7618

Amendment of the Commission's  
Rules to Establish New  
Personal Communications  
Services

DOCKET FILE COPY ORIGINAL

To: The Commission

**COMMENTS OF THE  
ASSOCIATION OF AMERICAN RAILROADS ON  
PETITIONS FOR RECONSIDERATION AND CLARIFICATION**

The Association of American Railroads ("AAR"), by its attorneys and pursuant to Section 1.429 of the rules of the Federal Communications Commission ("the Commission"), hereby submits its Comments on the petitions for reconsideration and clarification of the Commission's Second Report and Order, ("Second PCS R&O") in Gen Docket No. 90-314, adopted September 23, 1993.<sup>1/</sup>

**I. PRELIMINARY STATEMENT**

AAR is a voluntary, non-profit organization composed of member railroad companies operating in the United States, Canada and Mexico. These railroad companies generate 97 percent of the total operating revenues of all railroads in the United States. The AAR is the joint representative and agent of these railroads in connection with federal regulatory matters of common concern to the industry as a whole, including matters pertaining to regulation of communications. In addition, AAR functions as the

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<sup>1/</sup> These Comments are considered timely pursuant to the Public Notice released December 15, 1993 (58 Fed. Reg. 65596) and the Order Denying Extension of Time (DA 93-1575) released December 29, 1993.

frequency coordinator with respect to operation of land mobile and other radio-based services.

**II. RAILROADS USE 2 GHZ PRIVATE FIXED MICROWAVE FACILITIES TO ENSURE SAFE AND RELIABLE OPERATIONS.**

The railroads use private fixed microwave systems that operate on frequencies in the 2 GHz band to meet safety and reliability requirements in their day-to-day operations. Private microwave facilities are used to monitor and control more than 1.2 million freight cars on more than 215,000 miles of track nationwide. Microwave systems are used to automatically transmit signals and remotely control switching of tracks necessary for safe routing of trains through busy stations and freight yards. The systems also relay critical telemetry data from trackside defect detectors located throughout the rail network. Information about damaged rails and overheated wheel bearings and dragging equipment is automatically transmitted from these detectors to dispatchers, who then can act to prevent disastrous derailments. Microwave systems also are vital to coordination of operations among railroads.

**III. PCS AND MICROWAVE OPERATIONS IN A SHARED ENVIRONMENT**

**A. Use of One PCS - Microwave Interference Standard**

Several equipment manufacturers, fixed microwave incumbents and potential PCS providers, including Alcatel, Motorola, American Petroleum Institute ("API"), Telocator, American Personal Communications ("APC") and Ameritech, urged the Commission not to adopt proposed rule §99.233(d) which gives PCS providers and fixed microwave incumbents in the 2 GHz band the option of choosing between two different sets of criteria (either (1) Appendix D to the Second PCS R&O or (2) any standard

developed by a recognized authority) for computing the acceptable level of interference between PCS and fixed microwave facilities.<sup>2/</sup> Rather than adopting the standards set forth in Appendix D of the Second PCS R&O, they advised the Commission to adopt the industry consensus that is being developed under the guidance of the Telecommunications Industry Association ("TIA") in Bulletin TSB10-F. Moreover, they urged the Commission to use the standard being developed in Bulletin TSB10-F to cure the inconsistencies in §99.233(d) regarding the appropriate method of measuring PCS-to-microwave interference.

These parties contended, among other things, that the option of using two sets of standards to calculate and measure the interfering signal levels of a PCS base station or portable unit at the fixed microwave receiver, as envisioned by the Second PCS R&O, creates too much uncertainty to be workable. They recommended eliminating the uncertainty regarding what criteria to use in order to facilitate system design, expedite negotiations between microwave and PCS representatives and promote rapid deployment of PCS while protecting the interests of fixed microwave users.<sup>3/</sup>

The AAR endorses the recommendations to adopt one set of PCS-to-microwave interference standards. AAR's overriding goal

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<sup>2/</sup> Alcatel Network Systems's Petition for Reconsideration (filed December 8, 1993) at 2-5; Motorola's Petition for Reconsideration and Clarification (filed December 8, 1993) at 7; American Petroleum Institute's Petition for Reconsideration (filed December 8, 1993) at 4; Telocator's Petition for Reconsideration (filed December 8, 1993) at 10-13; American Personal Communications' Petition for Reconsideration (filed December 8, 1993) at 10-11; and Ameritech's Petition for Reconsideration (filed December 8, 1993) at 2-3.

<sup>3/</sup> Alcatel at 5.

is to ensure that the new standards provide fixed microwave licensees the same level of protection provided under the current standard, Bulletin TSB10-E. In light of the railroad industry's concerns regarding reliability and safety of operations, AAR supports the proposals of petitioning parties that would minimize the confusion surrounding the proper level of acceptable interference and the technical standards to be used to calculate PCS-induced interference to fixed microwave systems.

**B. Prior Coordination Procedures Are Necessary**

AAR supports the Utilities Telecommunications Council's ("UTC's") and API's recommendation that the Commission adopt prior coordination procedures, based on Section 21.100(d) of the Commission's rules, for licensed PCS-microwave coordination in the 2 GHz Band.<sup>4/</sup> As UTC noted, the prior coordination procedures described in Section 21.100(d) provide a convenient method for ensuring that all potential issues of interference are resolved prior to system licensing and deployment.<sup>5/</sup> Due to the fact that railroad fixed microwave licensees use their facilities for critical safety and reliability functions, AAR believes such prior coordination is necessary.

**C. The Commission Should Adopt Adjacent Channel Relocation Policy**

The AAR endorses, with qualifications, Bell Atlantic's suggestion that the Commission adopt a policy requiring adjacent channel microwave operators to upgrade their systems whenever a PCS licensee (1) demonstrates that upgrading the microwave system

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<sup>4/</sup> The Utilities Telecommunications Council's Petition for Reconsideration (filed December 8, 1993) at 17 and API at 6-8.

<sup>5/</sup> UTC at 17.

would reduce interference from the PCS system to the microwave system; and (2) the PCS operator is willing to pay the cost of the upgrade.<sup>6/</sup>

The AAR has consistently endorsed the use of tax certificates to ease the burden of changes in the Commission's rules and policies to ensure that the new policy does not result in adverse financial consequences to the licensee.<sup>7/</sup>

Accordingly, AAR believes that forced relocations of fixed microwave facilities (either co-channel or adjacent channel facilities) from the 2 GHz band should be accompanied by the issuance of tax certificates.<sup>8/</sup> The AAR urges the Commission to adopt Bell Atlantic's suggestion and to offer tax certificates to those adjacent channel licensees forced to relocate.<sup>9/</sup>

**D. Increasing Power Restrictions on Licensed PCS Operations**

Numerous potential providers of licensed PCS service and equipment such as PacTel, Time Warner, US West, Telocator, MCI,

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<sup>6/</sup> Bell Atlantic at 22-23.

<sup>7/</sup> See, e.g., AAR's Petition for Reconsideration and Partial Clarification, ET Docket No. 92-9 (filed October 4, 1993) at 5-8.

<sup>8/</sup> The AAR agrees with UTC's position that AMSC Subsidiary Corporation's Petition for Reconsideration in ET Docket 92-9, as noted in AMSC's Petition for Reconsideration in this docket, is untimely and procedurally defective. In light of this, AMSC's attempt to exempt MSS from the Commission's rules governing relocation of fixed microwave users from the band should be dismissed.

<sup>9/</sup> AAR opposes Bell Atlantic's suggestion that the Commission re-cast Section 99.233(b) of the Commission's rules to incorporate the principle that "excess margins" be eliminated. Bell Atlantic fails to acknowledge that noise performance in any microwave system end-to-end is additive of each link's noise level. Thus, calculating interference into microwave links based only on whether the link is a long or short one, rather than evaluating the system end-to-end, could result in the degradation of communications over the entire microwave system.

Sprint, Ameritech, APC, Motorola and Northern Telecom urged the Commission to increase the maximum power permitted for licensed PCS base stations and for mobile units.<sup>10/</sup> The consensus among the petitioners is to increase the maximum PCS base station power limits from 62 watts (ERP) to 1,000 watts (ERP), and from 1.2 watts (ERP) to 12 watts (ERP) for mobile units.

AAR does not object to an increase in the power of PCS base stations and mobile units as long as the protection afforded fixed microwave licensees from PCS-induced interference under the current power limits is incorporated into the rules governing PCS-to-microwave interference. As AAR stated earlier, its overriding goal is to ensure that the PCS-to-microwave interference standards give fixed microwave licensees the same level of protection provided under the current standard, Bulletin TSB10-E. Furthermore, if raising the maximum allowable power for PCS base and mobile stations increases the incidence of relocating fixed microwave incumbents from the 2 GHz band, AAR does not object as long as (1) the existing preconditions for relocation are met, i.e., there must be adequate replacement frequencies available and the costs of relocation must be borne by the PCS licensee; and (2) the fixed microwave incumbents

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<sup>10/</sup> PacTel's Petition for Partial Reconsideration (filed December 8, 1993) at 1-4; Time Warner's Petition for Partial Reconsideration (filed December 8, 1993) at 11-13; US West's Petition for Expedited Partial Reconsideration and for Clarification (filed December 8, 1993) at 13-16; Telocator's Petition for Reconsideration (filed December 8, 1993) at 1-9; MCI's Petition for Partial Reconsideration and Clarification (filed December 8, 1993) at 7-9; Sprint's Petition for Reconsideration and Clarification (filed December 8, 1993) at 14-15; Ameritech at 1-2; APC at 3-8; Northern Telecom's Petition for Reconsideration (filed December 8, 1993) at 4; and Motorola at 7-8.

remaining in the 2 GHz band receive the same level of protection from interference from PCS systems that they currently enjoy with respect to interference from other mixed microwave systems.

**E. Clarification of UTAM's Responsibilities in Relocating Microwave Incumbents from the Unlicensed Spectrum Band**

The Commission conditionally has given UTAM, Inc. ("UTAM") the responsibility of coordinating the deployment of PCS devices in the unlicensed portion of the PCS spectrum. In light of this conditional grant of authority, AAR supports Apple Computer's suggestion that the rules adopted in Part 15 concerning UTAM's potential responsibilities be amended to reflect UTAM's conditional grant of authority.<sup>11/</sup>

With respect to those responsibilities, UTAM has sought clarification of two aspects of its potential responsibilities. First, UTAM is concerned about whether it should be responsible, in the first instance, for determining whether an unlicensed PCS system or device is "coordinatable" (and thus, non-nomadic) as defined by rules governing the equipment authorization process. Specifically, §15.307(c) requires that "an application for certification of a PCS device that is deemed by UTAM, Inc. to be noncoordinatable will not be accepted until the Commission announces that a need for coordination no longer exists."<sup>12/</sup> It follows that if a device is deemed "coordinatable", the device will not cause harmful interference with co-channel or adjacent channel fixed microwave incumbents once it is properly coordinated. Accordingly, AAR agrees with UTAM that the

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<sup>11/</sup> Apple Computer's Petition for Reconsideration and/or Clarification (filed December 8, 1993) at 4.

<sup>12/</sup> 47 C.F.R. §15.307(c).

determination of whether a device is "coordinatable" should be left to the Commission.<sup>13/</sup> A determination of a particular device's coordinatability should be completed during the Commission's equipment authorization process before the device is permitted to be deployed in the unlicensed band.

Second, AAR believes that UTAM should be held responsible for verifying the installation or relocation of "coordinatable" PCS devices at the locations for which UTAM has conducted coordination.<sup>14/</sup> As UTC noted, fixed microwave users can only depend on UTAM to act as the enforcement mechanism in the first instance because there are no licensees against whom the Commission can enforce installation and relocation restrictions. Accordingly, UTAM should be responsible for ensuring that an unlicensed PCS device may not be installed or relocated without UTAM's prior coordination.

Moreover, the AAR agrees with UTC's suggestion to adopt more stringent labeling requirements on unlicensed PCS devices to aid in ensuring that unlicensed PCS devices are not subsequently moved from prior coordinated locations. AAR urges the Commission to adopt the labeling language recommended by UTC.<sup>15/</sup>

**F. Partitioning of PCS Licenses**

A number of parties such as McCaw Cellular and the National Telephone Cooperative Association urged the Commission to allow PCS licensees to partition their licenses by frequency or by

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<sup>13/</sup> UTAM, Inc.'s Petition for Clarification or Partial Reconsideration (filed December 8, 1993) at 3.

<sup>14/</sup> UTC at 11.

<sup>15/</sup> UTC at 15.



geography because, they contended, that either the frequency blocks or the service areas are too large for the viable deployment of PCS.<sup>16/</sup> AAR seeks to ensure that, if partitioning is permitted, either the original licensee or the licensee by partition will abide by and honor any relocation and/or compensation agreements entered into by the original licensee with regard to fixed microwave incumbents. The licensee by partition also must abide by the transition guarantees set forth in ET Docket 92-9. Relocation of co-channel and adjacent channel microwave will be an enormous undertaking by fixed microwave incumbents. Once negotiations are settled, incumbent fixed microwave licensees should be able to proceed with the relocation knowing that their agreements and the guarantees provided by ET Docket 92-9 will be honored by all entities involved in any subsequent partition transaction.

#### **IV. CONCLUSION**

AAR supports many of the suggested clarifications set forth in the various petitions for reconsideration of the Second PCS R&O. As long as fixed microwave users are provided the same level of protection from interference they now enjoy under TIA Bulletin TSB10-E, then AAR does not object to the adoption of only one PCS-to-microwave interference standard or the increase in maximum PCS base and mobile unit power levels. AAR also endorses prior notification procedures for the coordination of PCS-microwave sharing in the 2 GHz band and it supports the

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<sup>16/</sup> McCaw Cellular's Petition for Reconsideration and Clarification (filed December 8, 1993) at 6-8 and National Telephone Cooperative Association's Petition for Reconsideration and Clarification (filed December 8, 1993) at 1-8.

clarification of UTAM's responsibilities in administering the relocation of fixed microwave incumbents from the unlicensed PCS spectrum band. Finally, AAR requests that, if partitioning is allowed, the relocation agreements entered into by the partitioning party be honored by all licensees resulting from the partition.

Respectfully submitted,

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## CERTIFICATE OF SERVICE

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